

## **RAW SEQUENCE LISTING**

**The Biotechnology Systems Branch of the Scientific and Technical  
Information Center (STIC) no errors detected.**

Application Serial Number: 10/526,109A  
Source: PUT  
Date Processed by STIC: 2/2/06

# ***ENTERED***



PCT

## RAW SEQUENCE LISTING

DATE: 02/02/2006

PATENT APPLICATION: US/10/526,109A

TIME: 11:37:24

Input Set : A:\082368-003100US - Substitute Sequence Listing.txt

Output Set: N:\CRF4\02022006\J526109A.raw

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4 <110> APPLICANT: Egashira, Kensuke
5     Inoue, Shujiro
7 <120> TITLE OF INVENTION: NOVEL ACTIN-RELATED CYTOSKELETAL PROTEIN
8     "LACS"
10 <130> FILE REFERENCE: 082368-003100US
C--> 12 <140> CURRENT APPLICATION NUMBER: US/10/526,109A
C--> 12 <141> CURRENT FILING DATE: 2005-02-28
12 <150> PRIOR APPLICATION NUMBER: PCT/JP03/03613
13 <151> PRIOR FILING DATE: 2003-03-25
15 <150> PRIOR APPLICATION NUMBER: JP 2002-255442
16 <151> PRIOR FILING DATE: 2002-08-30
18 <160> NUMBER OF SEQ ID NOS: 2
20 <170> SOFTWARE: FastSEQ for Windows Version 4.0
22 <210> SEQ ID NO: 1
23 <211> LENGTH: 3302
24 <212> TYPE: PRT
25 <213> ORGANISM: Rattus rattus
27 <400> SEQUENCE: 1
28 Met Ala Arg Tyr Gln Ala Ala Val Ser Arg Gly Asp Thr Arg Ser Phe
29 1          5          10          15
30 Ser Ala Asn Val Met Glu Glu Ser Asp Leu Ser Thr Val Pro Gly Gly
31          20          25          30
32 Leu Ala Lys Met Lys Arg Gln Phe Glu Lys Asp Glu Met Thr Ser Thr
33          35          40          45
34 Cys Asn Ala Phe Ser Glu Tyr Gln Tyr Gln His Glu Ser Arg Ser Glu
35          50          55          60
36 Gln Glu Ala Ile His Asn Arg Gln Glu Ile Arg Arg Asn Glu Glu Glu
37 65          70          75          80
38 Val Ser Lys Gly His Arg Thr Asp Val Phe Lys Ala Glu Met Met Ser
39          85          90          95
40 His Leu Glu Lys His Thr Glu Glu Thr Asn Gln Ala Ser Gln Phe Arg
41          100         105         110
42 Gln Tyr Val Gln Glu Thr Val Ile Asp Thr Pro Glu Asp Glu Glu Ile
43          115         120         125
44 Pro Lys Val Ser Thr Lys Ile Leu Lys Glu Gln Phe Glu Lys Thr Ala
45          130         135         140
46 Gln Glu Asn Phe Leu Tyr Ser Asp Lys Glu Thr Thr Thr Pro Ala Lys
47 145         150         155         160
48 Cys Ile Lys Ile Glu Asn Asp Ser Glu Glu Thr Leu Lys Pro Ser Ser
49          165         170         175
50 Ala Met Gly Thr Ser Ser Tyr Thr Ser Ala Arg Gln Ser Lys Glu Thr
51          180         185         190
52 Ser Thr Ser Ser Tyr Ser Asn His Ser Leu Thr Ser Thr Ile Leu Ala

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```

53          195          200          205
54 Gln Glu Lys Gly Thr Pro Ser Gly Lys Met Glu Glu Phe Pro Pro Pro
55          210          215          220
56 Pro Pro Asp Val Phe Gln Thr Pro Met Asp Val Thr Ala Phe Ser Gln
57 225          230          235          240
58 Ser Pro Glu Phe Pro Ser Pro Pro Arg Arg Leu Pro Met Pro Arg Asp
59          245          250          255
60 Val Tyr Ser Lys Gln Arg Asn Leu Tyr Glu Leu Asn Arg Leu Tyr Arg
61          260          265          270
62 His Ile His Pro Glu Leu Arg Lys Asn Leu Glu Lys Asp Tyr Ile Ser
63          275          280          285
64 Glu Val Ser Glu Ile Val Ser Ser His Ile Asn Ser Gly Asn Ser Ile
65          290          295          300
66 Ser Ala Gly Val Gln Gln Ala Arg Tyr Val Phe Glu Asn Thr Asn Asp
67 305          310          315          320
68 Ser Ser Gln Lys Asp Leu Ser Ser Glu Arg Glu Asn Leu Glu Trp Asp
69          325          330          335
70 Glu Ile Leu Lys Gly Glu Val Gln Ser Ile Arg Trp Ile Phe Glu Asn
71          340          345          350
72 Gln Pro Leu Asp Ser Ile Asn Gln Gly Phe Thr Asp Glu Ala Tyr Thr
73          355          360          365
74 Ser Lys Gly Ile Ala Asp Gln Glu Leu Ile Ala Gly Gly Asp Val Lys
75          370          375          380
76 Tyr Thr Thr Trp Met Phe Glu Thr Gln Pro Ile Asp Ala Leu Gly Val
77 385          390          395          400
78 Pro Ser Ala Gly Thr Glu Glu Asn Thr Glu Lys Ile Pro Glu Leu Ala
79          405          410          415
80 Lys Gly Asp Val Cys Thr Ala Arg Trp Met Phe Glu Thr Arg Pro Leu
81          420          425          430
82 Asp Ser Met Asn Lys Met His Glu Trp Glu Asp Glu Thr Ala Ser Thr
83          435          440          445
84 Phe Ile Lys Asp Ile Thr Gly Gly Asp Val Lys Thr Val Arg Tyr Met
85          450          455          460
86 Phe Glu Thr Gln Gln Leu Asp Gln Leu Gly Gln Leu His Ser Val Asp
87 465          470          475          480
88 Glu Met Asn Leu Leu Gln Leu Arg Ser Glu Leu Lys Glu Ile Lys Gly
89          485          490          495
90 Asn Val Lys Arg Ser Ile Lys Cys Phe Glu Thr Gln Pro Leu Tyr Val
91          500          505          510
92 Ile Arg Asp Gly Ser Gly Gln Met Leu Glu Ile Lys Thr Val Gln Arg
93          515          520          525
94 Glu Asp Ile Glu Lys Gly Asp Val Arg Thr Ala Arg Trp Met Phe Glu
95          530          535          540
96 Thr Gln Pro Leu Asp Thr Ile Lys Gln Asp Ile Thr Glu Ile Lys Val
97 545          550          555          560
98 Val Arg Gly Ile Ser Met Glu Glu Asn Val Lys Gly Glu Val Gly Arg
99          565          570          575
100 Ala Arg Trp Leu Phe Glu Thr Gln Pro Leu Glu Lys Ile Lys Glu Glu
101          580          585          590

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```

102 Ser Gly Glu Ala Val Leu Lys Thr Glu Ala Val Val Gly Ile Asp Val
103      595      600      605
104 Ser Lys Lys Cys Trp Met Phe Glu Thr Gln Pro Leu Asp Thr Leu Lys
105      610      615      620
106 Gln Ser Pro Asp Thr Glu Ser Val Ser Pro Glu Glu Arg Ile Gly Gly
107 625      630      635      640
108 Asp Val Lys Thr Thr Lys His Leu Leu Glu Thr Leu Pro Ile Glu Ala
109      645      650      655
110 Leu Lys Asp Ser Pro Asp Val Gly Lys Leu Gln Lys Ile Thr Ala Ser
111      660      665      670
112 Glu Glu Glu Lys Gly Asp Val Lys His Gln Lys Trp Val Phe Glu Thr
113      675      680      685
114 Gln Arg Leu Glu Asp Ile Arg Glu Asp Lys Lys Glu Tyr Thr Gln Thr
115      690      695      700
116 Val Lys Leu Glu Ala Val Asp Arg Gly His Val Lys Asn Glu Thr His
117 705      710      715      720
118 Ile Phe Glu Ser Asn Asn Leu Ile Lys Val Asp Ala Ser His Gln Ile
119      725      730      735
120 Glu Val Glu Gly Val Thr Arg Gly Thr Val Glu Leu Asn Lys Ser Leu
121      740      745      750
122 Phe Glu Thr Thr Pro Leu Tyr Ala Ile Gln Asp His Leu Gly Lys Tyr
123      755      760      765
124 His Gln Val Lys Thr Val Gln Gln Glu Glu Ile Val Arg Gly Asp Val
125      770      775      780
126 Arg Ser Cys Arg Trp Leu Phe Glu Thr Arg Pro Ile Asp Gln Phe Asp
127 785      790      795      800
128 Glu Ser Leu His Lys Phe Gln Ile Ile Arg Gly Ile Ser Ala Gln Glu
129      805      810      815
130 Ile Gln Ala Gly Asn Val Lys Ser Ala Arg Trp Leu Phe Glu Thr Gln
131      820      825      830
132 Pro Leu Asp Ser Ile Lys Tyr Phe Ser Asn Val Glu Glu Thr Asp Ser
133      835      840      845
134 Lys Thr Glu Gln Ser Thr Asp Ile Val Lys Gly Asp Val Lys Thr Cys
135      850      855      860
136 Lys Trp Leu Phe Glu Thr Gln Pro Met Glu Ser Leu Tyr Glu Lys Ala
137 865      870      875      880
138 Ser Leu Met Thr Asn Ser Glu Asp Ile His Lys Gly Asp Val Arg Thr
139      885      890      895
140 Cys Met Trp Leu Phe Glu Thr Gln Pro Leu Asp Ala Ile Lys Asn Asp
141      900      905      910
142 Ser Glu Ala Thr Val Lys Leu Gln Thr Val Lys Gln Glu Glu Ile Gln
143      915      920      925
144 Gly Gly Asp Val Arg Thr Ala Cys Leu Leu Phe Glu Thr Glu Asn Leu
145      930      935      940
146 Asp Asn Ile Gln Gly Gly Glu Gly Lys Glu Thr Lys Pro Val Glu Met
147 945      950      955      960
148 Asp Ile Glu Ser Gly Asp Val Ser Gly Met Lys Tyr Lys Phe Glu Asn
149      965      970      975
150 Gln Ser Leu Asp Ser Ile Ser Cys Ser Ser Glu Asn Val Leu Asn Lys

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```

151          980          985          990
152 Ile Lys Thr Leu Lys Ile Glu Asp Ile Gln Lys Gly Asn Val Leu Asn
153          995          1000          1005
154 Cys Arg Trp Leu Phe Glu Asn Gln Pro Ile Asp Met Ile Lys Glu Asn
155          1010          1015          1020
156 Gln Glu Gly Asp Gly Leu Val Lys Thr Val Thr Asp Ile Gln Gly Gly
157 1025          1030          1035          1040
158 Asp Val Arg Lys Gly Cys Phe Ile Phe Glu Thr Phe Ser Leu Asp Glu
159          1045          1050          1055
160 Ile Lys Asp Glu Ser Asp Val Ile Ser Thr Arg Gln Thr Asn Thr Glu
161          1060          1065          1070
162 Glu Val Ile Lys Gly Asp Val Lys Ser Tyr Lys Met Leu Phe Glu Thr
163          1075          1080          1085
164 Gln Pro Leu Tyr Ala Ile Gln Asp Gln Glu Gly Phe Tyr His Glu Val
165          1090          1095          1100
166 Thr Thr Val Lys Lys Glu Glu Thr Ile His Gly Asp Val Arg Gly Thr
167 1105          1110          1115          1120
168 Arg Trp Leu Phe Glu Thr Lys Pro Leu Asp Ser Ile Asn Ala Ser Glu
169          1125          1130          1135
170 Asp Val Tyr Ile Ile Lys Ser Val Thr Gln Glu Asp Ile Gln Lys Gly
171          1140          1145          1150
172 Asp Val Ser Ser Val Arg Tyr Arg Phe Glu Thr Gln Pro Leu Asp Met
173          1155          1160          1165
174 Ile Ser Asp Lys Ser His Asn Ile Met Pro Thr Ile Asp His Ile Gln
175          1170          1175          1180
176 Gly Gly Asn Val Gln Met Asn Lys Gln Leu Phe Glu Ser Glu Gly Gly
177 1185          1190          1195          1200
178 Asp Lys Lys Asn Tyr Val Arg Thr Val Ser Ile Asn Glu Ile Gln Lys
179          1205          1210          1215
180 Gly Asn Val Lys Thr Ser Thr Trp Leu Phe Glu Thr His Ser Ile Asp
181          1220          1225          1230
182 Glu Leu Gly Glu Val Ser Thr Tyr Glu Asn Ile Lys Thr Val Thr Gln
183          1235          1240          1245
184 Glu Asp Val Gln Lys Gly Asp Val Lys Gln Ala Val Trp Leu Phe Glu
185          1250          1255          1260
186 Asn Gln Thr Leu Asp Ser Ile Lys Glu Leu Asp Glu Ser Asp Thr Lys
187 1265          1270          1275          1280
188 Ile Thr Lys Glu Glu Ile Pro Pro Ser Asp Val Lys Thr Thr Thr Trp
189          1285          1290          1295
190 Leu Phe Glu Thr Thr Pro Ile His Glu Phe Asn Glu Thr Arg Ile Glu
191          1300          1305          1310
192 Lys Glu Glu Ile Ile Gly Lys Ser Ile Lys Glu Thr Leu Glu Asp Leu
193          1315          1320          1325
194 Tyr Ser Gln Arg Val Val Glu Ala Pro Gly Ile Ile Ile Glu Ala Asp
195          1330          1335          1340
196 Glu Val Gly Asp Val Arg Met Ala Lys Tyr Lys Leu Met Asn Gln Arg
197 1345          1350          1355          1360
198 Thr Pro Glu Ile Gln Lys Glu Glu Val Ile Arg Ala Asp Leu Gly Asn
199          1365          1370          1375

```

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```

200 Ile Met Met Asn Leu Leu Ser Gln Arg Asp Cys Thr Lys Lys Glu Ile
201           1380           1385           1390
202 Phe Ile Ser Glu Glu Glu Lys Gly Asn Val Asn Phe Thr Lys Thr Gln
203           1395           1400           1405
204 Leu Leu Asn Arg Ser Met Glu Phe His Ala Glu Lys Glu Glu Ile Val
205           1410           1415           1420
206 Arg Gly Asp Val Lys Gln Ala Ile Gln Lys Leu Phe Ser Glu Glu Arg
207 1425           1430           1435           1440
208 Cys Ala Lys Arg Gly Ile Leu Ile Gln Glu Asp Glu Lys Gly Asp Val
209           1445           1450           1455
210 Asn Met Thr Ile Tyr Cys Leu Leu His Glu Asn Ala Gly Asp Lys Thr
211           1460           1465           1470
212 Lys Arg Glu Asp Ile Leu Gly Gly Asp Val Arg Arg Thr Ile His Asn
213           1475           1480           1485
214 Leu Leu Ser Ser Ala Ser Asn Asp Lys Ile Ser Glu Arg Thr Lys Ile
215           1490           1495           1500
216 Asp Ala Ser Glu Arg Gly Asn Val Gln Phe Phe Thr Thr Cys Ile Glu
217 1505           1510           1515           1520
218 Thr Gly Ala Leu Asp Tyr Leu Lys Gln Leu Gln Thr Gly Ser Asn Glu
219           1525           1530           1535
220 Thr Leu Thr Ala Arg Lys Gln Glu Gly Glu Glu Glu Ile Ile Gly Gly
221           1540           1545           1550
222 Asp Val Glu Gly Thr Lys Phe Leu Leu Lys Lys Arg Gln Ser Ser Ile
223           1555           1560           1565
224 Glu Arg Thr Val Ser Glu Thr Asp Ile Ile Pro Gly Asp Val Arg Asn
225           1570           1575           1580
226 Thr Val Lys Val Phe Met Thr Glu Pro Gln Ser Ala Ser Phe Lys Thr
227 1585           1590           1595           1600
228 Ala Lys Glu Glu Ile Val Lys Gly Asp Leu Lys Ser Thr Leu Asn Ser
229           1605           1610           1615
230 Leu Asn Gln Ala Met Asn Gln Lys Val Val Ala Lys Thr Glu Asp Ile
231           1620           1625           1630
232 Met Lys Asp Asp Lys Ala Ala Ile Leu Lys Ser Leu Lys Glu Ser Gly
233           1635           1640           1645
234 Gly Arg Gln Lys Glu His Lys Gln Ser Ala Ser Ile Ser Ser Asp Ile
235           1650           1655           1660
236 Gly Gln Ala Ile Glu Cys Leu Glu Lys Ala Thr Asn Thr Arg Thr Glu
237 1665           1670           1675           1680
238 Ile Leu Lys Lys Glu Leu Ile Leu Asp Asp Leu Lys Thr Ser Leu Arg
239           1685           1690           1695
240 Ser Leu Lys Glu Glu Gln Tyr Ser Phe Lys Glu Val Gly Lys Gln Gly
241           1700           1705           1710
242 Met Val Lys Asp Val Leu Gly Phe Ser Glu Arg Gln Glu Leu Gly Ile
243           1715           1720           1725
244 His Pro Ala Ala Val Gln Arg Glu Lys Lys Ser Leu Leu Gln Pro Val
245           1730           1735           1740
246 Pro Gly Pro Cys Glu Pro Ala Ile Arg Gln Gln Ala Gly Pro Gly Pro
247 1745           1750           1755           1760
248 Leu Asp Glu Ala Thr Gln Lys Ser Cys His Arg Ser Leu Thr Glu Glu

```

**VERIFICATION SUMMARY**

DATE: 02/02/2006

PATENT APPLICATION: US/10/526,109A

TIME: 11:37:25

Input Set : A:\082368-003100US - Substitute Sequence Listing.txt

Output Set: N:\CRF4\02022006\J526109A.raw

L:12 M:270 C: Current Application Number differs, Replaced Current Application No

L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date